

BEST AVAILABLE COPY



Blast 2 Sequences results

PubMed

Entrez

BLAST

OMIM

Taxonomy

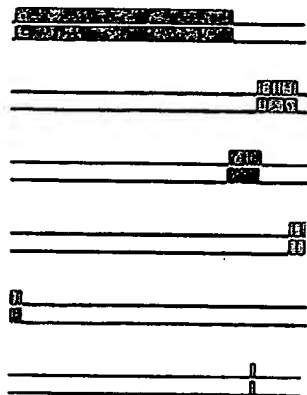
Structure

BLAST 2 SEQUENCES RESULTS VERSION BLASTN 2.2.6 [Apr-09-2003]

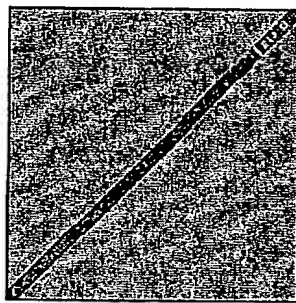
Match: Mismatch: gap open: gap extension:
 x_dropoff: expect: wordsize: Filter ☐

Sequence gi 14545110 Sequence 1 from Patent WO0138564. Length 8378 (1 .. 8378)

Sequence gi 1041088 Rattus norvegicus sodium channel I mRNA, complete cds. Length 8399 (1 .. 8399)



2



1

NOTE: The statistics (bitscore and expect value) is calculated based on the size of nr database

NOTE: If protein translation is reversed, please repeat the search with reverse strand of the query sequence

Score = 8241 bits (4286), Expect = 0.0
 Identities = 5554/6183 (89%), Gaps = 6/6183 (0%)
 Strand = Plus / Plus

Query: 169 gggatgatgctgttcctcactgcagatggataatcttccttttaatacaggaatttcacatg 228
 Sbjct: 155 gggagatgttgcttccttactgcagatagataatcttccttttatcaggaatctcacatg 214

Query: 229 cagaataaatggtaattaaaatgtgcaggatgacaagatggagcaaacagtgcttggtacc 288
 Sbjct: 215 aagagtaaagagtaattaaaatgtgcaggatgacaagatggagcaaacagtgcttggtacc 274
 Na+ channel 1 M E Q T V L V P

Query: 289 accaggacctgacagcttcaactcttcaccagagaatctcttgaggctattgaaagacg 348
 Sbjct: 275 accaggacctgacagcttcaactcttcaccagagaatctcttgaggctattgaaaggcg 334

Na+ channel 9 P G P D S F N F F T R E S L A A I E R R

Query: 349 cattgcagaagaaaaggcaaagaatcccaaaccagacaaaaaagatgacgacgaaaatgg 408
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Sbjct: 335 cattgcagaagaaaagctaagaatcccaagccagacaaaaaagatgatgatgaaaatgg 394
Na+ channel 29 I A E E K A K N P K P D K K D D D E N G

Query: 409 cccaaagccaaatagtgcacttggaagctgggaagaaccttccatttatttatggagacat 468
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Sbjct: 395 cccaaagccgaacagtgcacttggaagctgggaagaaccttccatttatttatggagacat 454
Na+ channel 49 P K P N S D L E A G K N L P F I Y G D I

Query: 469 tcctccagagatggtgtcagagccctggaggacctggaccctactatatcaataagaa 528
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Sbjct: 455 tcctccagagatggtgtcggagcctctggaggacctggaccctactatatcaataagaa 514
Na+ channel 69 P P E M V S E P L E D L D P Y Y I N K K

Query: 529 aacttttatagtattgaataaagggaaggccatcttccggttcagtgccacctctgcct 588
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Sbjct: 515 aacttttatagtattgaataaagggaaggccatcttccggttcagtgccacctctgcct 574
Na+ channel 89 T F I V L N K G K A I F R F S A T S A L

Query: 589 gtacattttaactcccttcaatcctcttaggaaaaatagctattaagattttggtacattc 648
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Sbjct: 575 gtacattttaactcccttcaatcctcttaggaaaaatagctattaagattttggtacattc 634
Na+ channel 109 Y I L T P F N P L R K I A I K I L V H S

Query: 649 attattcagcatgctaattatgtgcactattttgacaaactgtgtgtttatgacaatgag 708
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Sbjct: 635 attattcagcatgttaattatgtgcactattttgacgaactgtgtatttatgacaatgag 694
Na+ channel 129 L F S M L I M C T I L T N C V F M T M S

Query: 709 taaccctcctgattggacaaagaatgtagaatacaccttcacaggaatatatacttttga 768
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Sbjct: 695 taaccctcctgactggacaaagaatgtagagtacaccttcacaggaatatatacttttga 754
Na+ channel 149 N P P D W T K N V E Y T F T G I Y T F E

Query: 769 atcacttataaaaattattgcaaggggattctgtttagaagattttactttccttcggga 828
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Sbjct: 755 atcactaataaaaattattgcaaggggcttctgtttagaagattttactttccttcgtga 814
Na+ channel 169 S L I K I I A R G F C L E D F T F L R D

Query: 829 tccatggaactggctcgatttcactgtcattacatttgcggtacgtcacagagtttgtgga 888
 |||||
Sbjct: 815 cccatggaactggctggacttcactgtcattacattcgcatatgtgacggagtttgtgga 874
Na+ channel 189 P W N W L D F T V I T F A Y V T E F V D

Query: 889 cctgggcaatgtctcggcattgagaacattcagagttctccgagcattgaagacgatttc 948
 |||||
Sbjct: 875 cctgggcaatgtctcagcgttgagaacattcagagttcttcgagcattgaaaacaatatc 934

Na+ channel 209 L G N V S A L R T F R V L R A L K T I S

Query: 949 agtcattccaggcctgaaaaccattgtgggagccctgatccagtctgtgaagaagctctc 1008
 |||||
Sbjct: 935 agtcattccaggcctgaagaccatcggtggggccctgatccagtctgtgaagaagctctc 994
Na+ channel 229 V I P G L K T I V G A L I Q S V K K L S

Query: 1009 agatgtaatgacctgactgtgttctgtctgagcgtatttgctctaattgggctgcagct 1068
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Sbjct: 995 tgacgtcatgacctcaccgtgttctgtctcagtggtttgctctaattcggttgagct 1054
Na+ channel 249 D V M I L T V F C L S V F A L I G L Q L

Query: 1069 gttcatgggcaacctgaggaataaatgtatacaatggcctcccaccaatgcttccttgga 1128
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Sbjct: 1055 ttcatgggcaacctgaggaataagtgtgtacagtggccccccaccaacgcttccttgga 1114
Na+ channel 269 F M G N L R N K C V Q W P P T N A S L E

Query: 1129 ggaacatagtatagaaaagaatataactgtgaattataatggtacacttataaatgaaac 1188
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Sbjct: 1115 ggaacatagcatagagaagaatgtaactacggattacaacggcacacttgtaaataaaac 1174
Na+ channel 289 E H S I E K N V T T D Y N G T L V N E T

Query: 1189 tgtctttgagtttgactggaagtcatatattcaagattcaagatatcattatttcctgga 1248
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Sbjct: 1175 cgtgtttgaatttgactggaatcatacattcaagactcaagatatcattatttcctgga 1234
Na+ channel 309 V F E F D W K S Y I Q D S R Y H Y F L E

Query: 1249 ggggttttttagatgcactactatgtggaaatagctctgatgcaggccaatgtccagaggg 1308
 |||||
Sbjct: 1235 ggggtgttttagatgcactactgtgtggaaatagctctgatgcaggccaatgtccagaagg 1294
Na+ channel 329 G V L D A L L C G N S S D A G Q C P E G

Query: 1309 atatatgtgtgtgaaagctggtagaaatcccaattatggctacacaagctttgatacctt 1368
 |||
Sbjct: 1295 ttacatgtgtgtgaaagctggcagaaaccctaactatggttacacaagctttgacacctt 1354
Na+ channel 349 Y M C V K A G R N P N Y G Y T S F D T F

Query: 1369 cagttgggctttttgtccttgtttcgactaatgactcaggacttctgggaaaatcttta 1428
 |||
Sbjct: 1355 cagctgggcatttctgtccctgtttcgactgatgactcaggacttctgggaaaatcttta 1414
Na+ channel 369 S W A F L S L F R L M T Q D F W E N L Y

Query: 1429 tcaactgacattacgtgctgctgggaaaacgtacatgatattttttgtattggtcatttt 1488
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Sbjct: 1415 ccaactgacattgctgctgctgggaaaacatacatgatattttttgtgctggtcatttt 1474
Na+ channel 389 Q L T L R A A G K T Y M I F F V L V I F

Query: 1489 cttgggctcattctacctaataaatttgatcctggctgtggtggccatggcctacgagga 1548
 |||||
Sbjct: 1475 cttgggctcattctacctgataaacttgatcctggctgtggtggccatggcctatgagga 1534

Na+ channel 409 L G S F Y L I N L I L A V V A M A Y E E

Query: 1549 acagaatcaggccaccttgaagaagcagaaacagaaagaggccgaatttcagcagatgat 1608
||||| ||||||| ||||| || || ||||||| ||||| || ||||||| ||
Sbjct: 1535 acagaaccaggccacattggaggaggctgaacagaaggaggcagagtttcagcagatgct 1594
Na+ channel 429 Q N Q A T L E E A E Q K E A E F Q Q M L

Query: 1609 tgaacagcttaaaaagcaacaggaggcagctcagcaggcagcaacggcaactgcctcaga 1668
|| || || || ||||| ||||| || ||||| || ||||| || ||||| ||
Sbjct: 1595 ggagcaactgaagaagcagcaggaagccgcacagcaggcgcgagcaacagcatcaga 1654
Na+ channel 449 E Q L K K Q Q E A A Q Q A A A A T A S E

Query: 1669 acattccagagagcccagtgagcaggcaggctctcagacagctcatctgaagcctctaa 1728
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Sbjct: 1655 acattccaggagcccagtgagcgggaggctctcagatagctcttcagaagcctccaa 1714
Na+ channel 469 H S R E P S A A G R L S D S S S E A S K

Query: 1729 gttgagttccaagagtgcctaaggaaagaagaatcgagggaagaaaaagaaaacagaaaga 1788
||||||| ||||||| ||||||| || ||||||| ||||||| ||||||| ||
Sbjct: 1715 gttgagttcaaagagcgctaaagaaggcggaatcgagggaagaaaaagaaaacagaaaga 1774
Na+ channel 489 L S S K S A K E R R N R R K K R K Q K E

Query: 1789 gcagtctgggtggggaagagaaagatgaggatgaattccaaaaatctgaatctgaggacag 1848
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Sbjct: 1775 gcagtctggaggggaagagaaagatgatgatgaattccacaaatccgagtcggaagatag 1834
Na+ channel 509 Q S G G E E K D D D E F H K S E S E D S

Query: 1849 catcaggaggaaagggttttcgcttctccattgaagggaaccgattgacatatgaaaagag 1908
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Sbjct: 1835 catcaggaggaagggttttcgcttctccatagaagggaacagactgacctatgaaaagag 1894
Na+ channel 529 I R R K G F R F S I E G N R L T Y E K R

Query: 1909 gtactcctccccacaccagtctttgttgagcatccgtggctccctattttcaccaaggcg 1968
||||||| ||||||| ||||||| ||||||| ||||||| ||||||| ||
Sbjct: 1895 gtactcttccccacatcagtctctgttgagcattcgcggtcactgttttccccgagacg 1954
Na+ channel 549 Y S S P H Q S L L S I R G S L F S P R R

Query: 1969 aaatagcagaacaagccttttcagctttagaggcgagcaaaggatgtgggatctgagaa 2028
||||||| ||||||| ||||||| ||||||| ||||||| ||||||| ||
Sbjct: 1955 caatagcagaacaagtcttttcagcttcagaggcgagcgaaggacgtggggtctgagaa 2014
Na+ channel 569 N S R T S L F S F R G R A K D V G S E N

Query: 2029 cgacttcgcagatgatgagcacagcacctttgaggataacgagagccgtagagattcctt 2088
|| || || || ||||||| ||||||| || ||||||| || ||||||| ||
Sbjct: 2015 tgattttgcggacgatgagcacagcaccttcgaggacaatgagagcaggagagactctct 2074
Na+ channel 589 D F A D D E H S T F E D N E S R R D S L

Query: 2089 gtttgtgccccgacgacacggagagagacgcaacagcaacctgagtcagaccagtaggtc 2148
||||||| ||||||| ||||||| ||||||| ||||||| || || || || ||
Sbjct: 2075 gtttgttccccgaagacatggagagcgacgcaacagtaacctcagccaaaccagcagatc 2134

06/17/2004

Na+ channel 1009 M N N L Q I A V D R M H K G V A Y V K R

Query: 3349 aaaaatatatgaatttattcaacagtccttcattaggaacaaaagatttttagatgaaat 3408
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Sbjct: 3335 aaaaatatatgagtttattcaacagtcctttgttaggaacagaagatccttagatgaaat 3394
Na+ channel 1029 K I Y E F I Q Q S F V R K Q K I L D E I

Query: 3409 taaaccacttgatgatctaaacaacaagaaagacagttgtatgtccaatcatacagcaga 3468
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Sbjct: 3395 taagccacttgatgatctaaacaacagaaaagacaattgtacatctaaccacagcagaga 3454
Na+ channel 1049 K P L D D L N N R K D N C T S N H T T E

Query: 3469 aattgggaaagatcttgactatcttaaagatgtaaattggaactacaagtggatataggaac 3528
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Sbjct: 3455 gattgggaaagatctggactgtctgaaagatgtgaatggaaccacgagtggtcatagggac 3514
Na+ channel 1069 I G K D L D C L K D V N G T T S G I G T

Query: 3529 tggcagcagtggtgaaaaatacattattgatgaaagtgattacatgtcattcataaaca 3588
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Sbjct: 3515 cggcagcagtggtgaaaagtacatcattgatgagagtgactacatgtcattcataaaca 3574
Na+ channel 1089 G S S V E K Y I I D E S D Y M S F I N N

Query: 3589 cccagtccttactgtgactgtaccaattgctgtaggagaatctgactttgaaaatttaaa 3648
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Sbjct: 3575 cccagcctcaccgtgactgtgccattgctgtgggagagtctgactttgaaaacttaaa 3634
Na+ channel 1109 P S L T V T V P I A V G E S D F E N L N

Query: 3649 cacggaagacttttagtagtgaatcggatctggaagaaagcaaagagaaactgaatgaaag 3708
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Sbjct: 3635 cacagaggacttttagcagtgaatcagatctagaagaaagcaaagagaaactcaacgaaag 3694
Na+ channel 1129 T E D F S S E S D L E E S K E K L N E S

Query: 3709 cagtagctcatcagaaggttagcactgtggacatcgggcgacctgtagaagaacagcccgt 3768
|||||
Sbjct: 3695 cagtagttcctcagaaggaagcacagtagacatcgggcgccctgaggaggaacagccgt 3754
Na+ channel 1149 S S S S E G S T V D I G A P A E E Q P V

Query: 3769 agtggaaacctgaagaaactcttgaaccagaagcttgtttcactgaaggctgtgtacaaag 3828
|||||
Sbjct: 3755 catggaaccagaagaaacccttgagcccgaagcttgtttcactgaaggctgtgtgcagag 3814
Na+ channel 1169 M E P E E T L E P E A C F T E G C V Q R

Query: 3829 attcaagtgttgtcaaataatgtggaagaaggcagaggaaaacaatgggtggaacctgag 3888
|||||
Sbjct: 3815 attcaagtgtgtcaaatacagtggtggaagaaggagaggaaaacagtggtggaaccttcg 3874
Na+ channel 1189 F K C C Q I S V E E G R G K Q W W N L R

Query: 3889 aaggacgtgtttccgaatagttgaacataactggtttgagaccttcattgtttcatgat 3948
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Sbjct: 3875 gagaacgtgcttccgaatagttgagcacaactggtttgagaccttcattgtgttcagat 3934

06/17/2004

06/17/2004

Na+ channel 1609 F V V V I L S I V G M F L A E L I E K Y

Query: 5148 tttcgtgtccccctaccctgttccgagtgatccgtcttgctaggattggccgaatcctacg 5207
|||||
Sbjct: 5135 tttcgtgtccccctaccctgttccgagtcacccgctggccaggattggacgaatcctacg 5194
Na+ channel 1629 F V S P T L F R V I R L A R I G R I L R

Query: 5208 tctgatcaaaggagcaaaggggatccgcacgtgctctttgctttgatgatgtcccttcc 5267
|||||
Sbjct: 5195 cctgatcaaaggcgccaaggggatccgcactctgctctttgctctgatgatgtcccttcc 5254
Na+ channel 1649 L I K G A K G I R T L L F A L M M S L P

Query: 5268 tgcgttggtttaacatcgccctcctactcttccctagtcacgttcatctacgccatctttgg 5327
|||||
Sbjct: 5255 tgcgttggtttaacatcgccctcctgcttttccctggctacgttcatctacgccatctttgg 5314
Na+ channel 1669 A L F N I G L L L F L V M F I Y A I F G

Query: 5328 gatgtccaactttgcctatgttaagaggggaagttgggatcgatgacatgttcaactttga 5387
|||||
Sbjct: 5315 gatgtccaactttgcctatgttaagaggggaagttggaattgatgacatgttcaactttga 5374
Na+ channel 1689 M S N F A Y V K R E V G I D D M F N F E

Query: 5388 gacctttggcaacagcatgatctgcctattccaaattacaacctctgctggctgggatgg 5447
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Sbjct: 5375 gacttttggcaacagcatgatctgcctgttccaaatcaccacctctgctgggctgggacgg 5434
Na+ channel 1709 T F G N S M I C L F Q I T T S A G W D G

Query: 5448 attgctagcaccattctcaacagtaagccacccgactgtgaccctaataaagttaaccc 5507
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Sbjct: 5435 actgctggcccccatcctcaacagcaaaccctgactgtgaccctaataaagttaaccc 5494
Na+ channel 1729 L L A P I L N S K P P D C D P N K V N P

Query: 5508 tggaagctcagttaagggagactgtgggaacccatctgttggaattttctttttgtcag 5567
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Sbjct: 5495 cggaagctcgggtgaaggggactgtgggaacccatccgtgggattttctttttgtcag 5554
Na+ channel 1749 G S S V K G D C G N P S V G I F F F V S

Query: 5568 ttacatcatcatatccttccctggttggtgaacatgtacatcgcggtcatcctggagaa 5627
|||||
Sbjct: 5555 ctacatcatcatatccttccctggttggtgaacatgtacatcgctgtcatcctggagaa 5614
Na+ channel 1769 Y I I I S F L V V V N M Y I A V I L E N

Query: 5628 cttcagtgttgctactgaagaaagtgcagagcctctgagtgaggatgactttgagatgtt 5687
|||||
Sbjct: 5615 cttcagcgttgccaccgaagaaagtgcagagccctgagtgaggacgactttgagatgtt 5674
Na+ channel 1789 F S V A T E E S A E P L S E D D F E M F

Query: 5688 ctatgaggtttgggagaagtttgatcccgatgcaactcagttcatggaatttgaaaaatt 5747
|||||
Sbjct: 5675 ctacgaggtctgggagaagttcgaccctgacgccactcagttcatggaatttgaaaaatt 5734

Na+ channel 1809 Y E V W E K F D P D A T Q F M E F E K L

Query: 5748 atctcagtttgcagctgctgctgaaccgcctctcaatctgccacaaccaaactcca 5807
|||||
Sbjct: 5735 atctcagtttgcagctgctctcgaacccctctcaacttaccacaaccgaacaaacttca 5794
Na+ channel 1829 S Q F A A A L E P P L N L P Q P N K L Q

Query: 5808 gctcattgccatggatttgcctcatggtgagtggtgaccggatccactgtcttgatatctt 5867
|||||
Sbjct: 5795 gctcattgccatggacctgctcatggtgagtggtgaccggatccactgtcttgatatctt 5854
Na+ channel 1849 L I A M D L P M V S G D R I H C L D I L

Query: 5868 atttgcttttacaaagcgggttctaggagagagtggtgagagatggatgctctacgaataca 5927
|||||
Sbjct: 5855 gtttgcttttacaaagcgggttctggcgagagtggtgagagatggacgctcttcgaatcca 5914
Na+ channel 1869 F A F T K R V L G E S G E M D A L R I Q

Query: 5928 gatggaagagcgattcatggcttccaatccttccaaggtctcctatcagccaatcactac 5987
|||||
Sbjct: 5915 gatggaagaaaaggttcatggcttccaacccctccaaggtctcctatcagccaatcactac 5974
Na+ channel 1889 M E E R F M A S N P S K V S Y Q P I T T

Query: 5988 tactttaaaacgaaaacaagaggaagtatctgctgtcattattcagcgtgcttacagacg 6047
|| |||||
Sbjct: 5975 aacgttaaaaacgaaaagcaagaggaggtgtcagccgttatcattcagcgtgcttacaggcg 6034
Na+ channel 1909 T L K R K Q E E V S A V I I Q R A Y R R

Query: 6048 ccaccttttaagcggaactgtaaaacaagcttctttacgtacaataaaaaacaaatcaa 6107
|||||
Sbjct: 6035 ccaccttttgaagcggaacagtaaaaacaagcttctttacgtacaataaaaaacaaatcaa 6094
Na+ channel 1929 H L L K R T V K Q A S F T Y N K N K L K

Query: 6108 aggtgggggctaattcttcttataaaaagaagacatgataattgacagaataaatgaaaactc 6167
|| |||||
Sbjct: 6095 gggcggggctaattcttcttataaaaagaagacatgatcattgacaggataaatgaaaactc 6154
Na+ channel 1949 G G A N L L V K E D M I I D R I N E N S

Query: 6168 tattacagaaaaaactgatctgaccatgtccactgcagcttgtccaccttcctatgaccg 6227
|||||
Sbjct: 6155 tattacagagaaaaactgacctgacgatgtccactgcagcttgtccgacctcctacgaccg 6214
Na+ channel 1969 I T E K T D L T M S T A A C P P S Y D R

Query: 6228 ggtgacaaagccaattgttgaaaaacatgagcaagaaggcaaagatgaaaaagccaaagg 6287
|||||
Sbjct: 6215 ggtgacaaagccaatcgtggagaaacacgagcaggaaggaaaagatgagaaagccaaagg 6274
Na+ channel 1989 V T K P I V E K H E Q E G K D E K A K G

Query: 6288 gaaataaatgaaaataaataaaaa-----taattgggtgacaaattgtttacagcctgtg 6342
|||||
Sbjct: 6275 gaaatgaacacaaacaaacaaaaataataaattgggtgacaaattgtttacagcctgtg 6334

Score = 854 bits (444), Expect = 0.0
Identities = 743/870 (85%), Gaps = 14/870 (1%)
Strand = Plus / Plus

Query: 7692 tgtttagaattttataagcaaataataat-actgtaaaaagtcactttattttatttttc 7750

Sbjct: 6580 gggg---gtttaacgtgaaacactttagtgtagtaactgtattcaccgtttgcatttcaa 6636

Query: 6660 ctgccacatttgtcacatttt-tatggaatctgttagtggaattcatctttttgtt-aatc 6717
|||||
Sbjct: 6637 ctgccacatttgtcaggtttgtacaaactctgttagtggaattcatctttttttaaatc 6696

Query: 6718 cat---gtgtttatttatatgtgactatttttgtaaacgaagtttctgttgagaaataggc 6774
|||
Sbjct: 6697 catatgttggtttgttacatgtgactatttttgtaaacggggttctgttggaacagac 6756

Query: 6775 t-aaggacctctataacaggtatgccacctggggggtatggcaaccacatggccctccca 6833
|
Sbjct: 6757 taaaggaactcttttcctgtgtgtcacctgggggtattgacatccatacagccctccca 6816

Query: 6834 gctacacaaagtcgtgg-tttgca--tgagggcattgctgcacttagagatcatgcatgag 6890
||
Sbjct: 6817 tctgcacaacgatgtggttttgcattgtgagggcattgctgtaccttacgatcatgcatgag 6876

Query: 6891 -aaaaagtcacaagaaaaacaaa 6912
|||
Sbjct: 6877 aaaaaagtcacaaggaaagcaaa 6899

Score = 166 bits (86), Expect = 9e-37
Identities = 232/290 (80%), Gaps = 11/290 (3%)
Strand = Plus / Plus

Query: 8097 ttttcatttctttggagtaatgctgctctag-ttgttctaaatagaat-gtgggcttcat 8154
|||
Sbjct: 8112 ttttctttgctttggaatcacgcattctctagattgttctaaatataaacgtgagcttcgg 8171

Query: 8155 aatttttttttc-cacaaaaacagagtagtcaacttatatagtcattacatcaggacat 8213
|||
Sbjct: 8172 aatttcttttctcctcaaaaacagagaggatgacacttacatagtcattatatcaagatat 8231

Query: 8214 tttgtgtttcttacagaagcaaacataggctcctcttttccttaa-----aactactt 8267
||
Sbjct: 8232 tt-gtgtttcttacagaagcagaccataggcacctctttttcttaagaaaaaaatattt 8290

Query: 8268 agataaactgtattcgtgaactgcatgctggaaaatgctactattatgctaaataatgct 8327
||
Sbjct: 8291 aggcaaacgtattcatgaactgcatgttggaatgctactattgccccaaatgatgct 8350

Query: 8328 aaccaacatttaaaatgtgcaaaactaataaagattacattttttatttt 8377
||
Sbjct: 8351 aatcacaattaaaaatgtgcaaatctaataaaaatta-attttttatttt 8399

Score = 102 bits (53), Expect = 1e-17
Identities = 123/148 (83%), Gaps = 11/148 (7%)
Strand = Plus / Plus

87
88

Query: 1 tactgcagaggtctctggtgcatgtgtgtatgtgtgcgtttgtgtgtgtttgtgtgtctg 60
|||||
Sbjct: 1 tactgcagaggtctctggtgcatgtgtgtatgtgtgtgc-----gtgtgtt--tgtgtacg 52

Query: 61 tgtgttctgccccagtgagactgcagcccttgt-aaatactttgacaccttttgcaagaa 119
|
Sbjct: 53 tatgttctgccccctgtcaggctgcagcccttgtgaaacacttggtcaccttttgcaagaa 112

Query: 120 ggaa--tctgaacaattgcaactgaagg 145
|||
Sbjct: 113 ggaatctctgaatcgttgcaactgaagg 140

Score = 56.4 bits (29), Expect = 0.001
Identities = 35/38 (92%)
Strand = Plus / Plus

Query: 7036 tcttagcaggtgcaaacttcattcaaagtgttgagtc 7073
|||||
Sbjct: 7054 tcttagtaggtgcaaacttcattcaaagtgttgagtc 7091

CPU time: 0.08 user secs. 0.00 sys. secs 0.08 total secs.

Lambda	K	H
1.33	0.621	1.12

Gapped

Lambda	K	H
1.33	0.621	1.12

Matrix: blastn matrix:1 -2
Gap Penalties: Existence: 5, Extension: 2
Number of Hits to DB: 95
Number of Sequences: 0
Number of extensions: 95
Number of successful extensions: 37
Number of sequences better than 10.0: 1
Number of HSP's better than 10.0 without gapping: 1
Number of HSP's successfully gapped in prelim test: 0
Number of HSP's that attempted gapping in prelim test: 0
Number of HSP's gapped (non-prelim): 9
length of query: 8378
length of database: 10,761,364,081
effective HSP length: 27
effective length of query: 8351
effective length of database: 10,761,364,054
effective search space: 89868151214954
effective search space used: 89868151214954
T: 0
A: 0
X1: 6 (11.5 bits)
X2: 26 (50.0 bits)

S1: 12 (23.8 bits)
S2: 23 (44.9 bits)



Blast 2 Sequences results

PubMed

Entrez

BLAST

OMIM

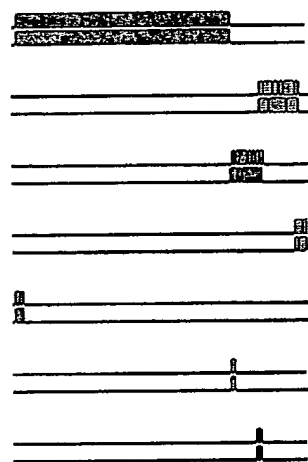
Taxonomy

Structure

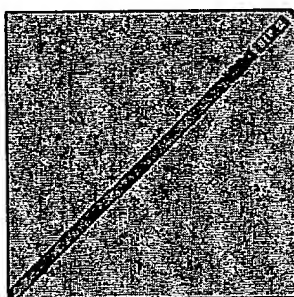
BLAST 2 SEQUENCES RESULTS VERSION BLASTN 2.2.6 [Apr-09-2003]

Match: 1 Mismatch: -2 gap open: 5 gap extension: 2
x_dropoff: 50 expect: 10.000 wordsize: 11 Filter ☒ Align

Sequence 1	gi <u>14545111</u>	Sequence 2 from Patent WO0138564.	Length 8378 (1 .. 8378)
Sequence 2	gi <u>1041088</u>	Rattus norvegicus sodium channel I mRNA, complete cds.	Length 8399 (1 .. 8399)



2



1

NOTE: The statistics (bitscore and expect value) is calculated based on the size of nr database

NOTE: If protein translation is reversed, please repeat the search with reverse strand of the query sequence

Score = 8077 bits (4201), Expect = 0.0
Identities = 5475/6107 (89%), Gaps = 2/6107 (0%)
Strand = plus / plus

```

Query:      169  gggtgatgctgttcctcactgcagatggataattttccttttaatcaggaatttcatatg 228
              ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| |||
Sbjct:      155  gggagatgttgttccttactgcagatagataattttcctttttatcaggaatctcacatg 214

Query:      229  cagaataaatggtaattaaaatgtgcaggatgacaagatggagcaaacagtgcttgacc 288
              ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| |||
Sbjct:      215  aagagtaaagagtaattaaaatgtgcaggatgacaagatggagcaaacagtgcttgacc 274
Na+ channel 1                               M E Q T V L V P

```

Query: 289 accaggacctgacagcttcaacttcttcaccagagaatctcttgaggctattgaaagacg 348

```
|||||
Sbjct:      275 accaggacctgacagcttcaacttcttcaccagagaatctcttgacagctattgaaagggcg 334
Na+ channel 9   P G P D S F N F F T R E S L A A I E R R

Query:      349 cattgcagaagaaaaggcaaagaatcccaaaccagacaaaaaagatgacgacgaaaatgg 408
Sbjct:      335 cattgcagaagaaaagctaagaatcccaagccagacaaaaaagatgatgatgaaaatgg 394
Na+ channel 29   I A E E K A K N P K P D K K D D D E N G

Query:      409 cccaaagccaaatagtgacttggaagctggaaagaaccttccattttatgttgagacat 468
Sbjct:      395 cccaaagccgaacagtgacttggaagctgggaagaaccttccattttatctatggagacat 454
Na+ channel 49   P K P N S D L E A G K N L P F I Y G D I

Query:      469 tcctccagagatggtgtcagagccctggaggacctggacccctactatatcaataagaa 528
Sbjct:      455 tcctccagagatggtgtcggagcctctggaggacctggacccctactatatcaataagaa 514
Na+ channel 69   P P E M V S E P L E D L D P Y Y I N K K

Query:      529 aacttttatagtagtattgaataaagggaaggccatcttccggttcagtgccacctctgccct 588
Sbjct:      515 aacttttatagtagtattgaataaagggaaggccatcttccggttcagtgccacctctgccct 574
Na+ channel 89   T F I V L N K G K A I F R F S A T S A L

Query:      589 gtacattttaactcccttcaatcctcttaggaaaaatagctattaagattttggtacattc 648
Sbjct:      575 gtacattttaactcccttcaatcctcttaggaaaaatagctattaagattttggtacactc 634
Na+ channel 109  Y I L T P F N P L R K I A I K I L V H S

Query:      649 attattcagcatgctaattatgtgcactattttgacaaactgtgtgtttatgacaatgag 708
Sbjct:      635 attattcagcatgttaattatgtgcactattttgacgaactgtgtattttatgacaatgag 694
Na+ channel 129  L F S M L I M C T I L T N C V F M T M S

Query:      709 taaccctcctgattggacaaagaatgtagaatacaccttcacaggaatatatacttttga 768
Sbjct:      695 taaccctcctgactggacaaagaatgtagagtacaccttcacaggaatatatacttttga 754
Na+ channel 149  N P P D W T K N V E Y T F T G I Y T F E

Query:      769 atcacttataaaaaattattgcaaggggattctgtttagaagattttactttccttcggga 828
Sbjct:      755 atcactaataaaaaattattgcaaggggcttctgtttagaagattttactttccttcgtga 814
Na+ channel 169  S L I K I I A R G F C L E D F T F L R D

Query:      829 tccatggaactggctcgatttcactgtcattacatttgcggttgtaacagaatttgtaaa 888
Sbjct:      815 cccatggaactggctggacttcactgtcattacattcgcataatgtgacggagtttggtga 874
Na+ channel 189  P W N W L D F T V I T F A Y V T E F V D

Query:      889 cctaggcaatttttccagctcttcgcacttttcagagctttgagagctttgaaaactatttc 948
```

|||||
Sbjct: 875 cctgggcaatgtctcagcggttgagaacattcagagttcttcgagcattgaaaacaatatc 934
Na+ channel 209 L G N V S A L R T F R V L R A L K T I S

Query: 949 ggtaattccaggcctgaaaaccattgtgggagccctgatccagtcctgtgaagaagctctc 1008
|||
Sbjct: 935 agtcattccaggcctgaagaccatcggtggggccctgatccagtcctgtgaagaagctctc 994
Na+ channel 229 V I P G L K T I V G A L I Q S V K K L S

Query: 1009 agatgtaatgatcctgactgtgttctgtctgagcgtatttgctctaattgggctgcagct 1068
|||
Sbjct: 995 tgacgtcatgatcctcaccgtgttctgtctcagtggtttgctctaatacggttgcagct 1054
Na+ channel 249 D V M I L T V F C L S V F A L I G L Q L

Query: 1069 gttcatgggcaacctgaggaataaatgtatacaatggcctcccaccaatgcttccttga 1128
|||
Sbjct: 1055 tttcatgggcaacctgaggaataagtgtgtacagtggccccccaccaacgcttccttga 1114
Na+ channel 269 F M G N L R N K C V Q W P P T N A S L E

Query: 1129 ggaacatagtatagaaaaagaatataactgtgaattataatggtacacttataaatgaaac 1188
|||
Sbjct: 1115 ggaacatagcatagagaagaatgtaactacggattacaacggcacacttgtaaatgaaac 1174
Na+ channel 289 E H S I E K N V T T D Y N G T L V N E T

Query: 1189 tgtctttgagtttgactggaagtcatatattcaagattcaagatatcattatttcctgga 1248
|||
Sbjct: 1175 cgtgtttgaatttgactggaaatcatacattcaagactcaagatatcattatttcctgga 1234
Na+ channel 309 V F E F D W K S Y I Q D S R Y H Y F L E

Query: 1249 ggggttttttagatgcactactatgtggaaatagctctgatgcaggccaatgtccagaggg 1308
|||
Sbjct: 1235 ggggtgttttagatgcactactgtgtggaaatagctctgatgcaggccaatgtccagaagg 1294
Na+ channel 329 G V L D A L L C G N S S D A G Q C P E G

Query: 1309 atatatgtgtgtgaaagctggtagaaatcccaattatggctacacaagctttgatacctt 1368
|||
Sbjct: 1295 ttacatgtgtgtgaaaagctggcagaaaccctaactatggttacacaagctttgacacctt 1354
Na+ channel 349 Y M C V K A G R N P N Y G Y T S F D T F

Query: 1369 cagttgggcttttttgccttgtttcgactaatgactcaggacttctgggaaaatcttta 1428
|||
Sbjct: 1355 cagctgggcatttctgtccctgtttcgactgatgactcaggacttctgggaaaatcttta 1414
Na+ channel 369 S W A F L S L F R L M T Q D F W E N L Y

Query: 1429 tcaactgacattacgtgctgctgggaaaacgtacatgatatttttgtattggtcatttt 1488
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Sbjct: 1415 ccaactgacattgcgtgctgcccgggaaaacatacatgatatttttgtgctggtcatttt 1474
Na+ channel 389 Q L T L R A A G K T Y M I F F V L V I F

Query: 1489 cttgggctcattctacctaataaatttgatcctggctgtgggtggccatggcctacgagga 1548

Sbjct: 1475 cttgggctcattctacctgataaacttgatcctggctgtgggtggccatggcctatgagga 1534
Na+ channel 409 L G S F Y L I N L I L A V V A M A Y E E

Query: 1549 acagaatcaggccaccttggagaagcagaacagaaaggccgaatttcagcagatgat 1608
Sbjct: 1535 acagaaccaggccacattggaggaggctgaacagaaggaggcagagtttcagcagatgct 1594
Na+ channel 429 Q N Q A T L E E A E Q K E A E F Q Q M L

Query: 1609 tgaacagcttaaaaaagcaacaggaggcagctcagcaggcagcaacggcaactgcctcaga 1668
Sbjct: 1595 ggagcaactgaagaagcagcaggaagccgcacagcaggcggcggcagcaacagcatcaga 1654
Na+ channel 449 E Q L K K Q Q E A A Q Q A A A A T A S E

Query: 1669 acattccagagagcccagtgagcaggcaggctctcagacagctcatctgaagcctctaa 1728
Sbjct: 1655 acattccaggaggagcccagtgagcggggcaggctctcagatagctcttcagaagcctcaa 1714
Na+ channel 469 H S R E P S A A G R L S D S S S E A S K

Query: 1729 gttgagttccaagagtgcctaaggaaagaagaaatcgagggaagaaaagaaaacagaaaga 1788
Sbjct: 1715 gttgagttcaaagagcgctaaagaaaggcggaatcgagggaaaaaaagaaaacagaaaga 1774
Na+ channel 489 L S S K S A K E R R N R R K K R K Q K E

Query: 1789 gcagtctggtggggaagagaaagatgaggatgaattccaaaaatctgaatctgaggacag 1848
Sbjct: 1775 gcagtctggaggggaagagaaagatgatgatgaattccacaaatccgagtcggaagatag 1834
Na+ channel 509 Q S G G E E K D D D E F H K S E S E D S

Query: 1849 catcaggaggaaaagggttttcgcttctccattgaagggaaccgattgacatatgaaaagag 1908
Sbjct: 1835 catcaggaggaaagggttttcgcttctccatagaagggaacagactgacctatgaaaagag 1894
Na+ channel 529 I R R K G F R F S I E G N R L T Y E K R

Query: 1909 gtactcctccccacaccagtctttgttgagcatccgtggctccctattttcaccaaggcg 1968
Sbjct: 1895 gtactcctccccacatcagtctctgttgagcattcgcggtcactgttttccccgagacg 1954
Na+ channel 549 Y S S P H Q S L L S I R G S L F S P R R

Query: 1969 aaatagcagaacaagccttttcagcttttagagggcgagcaaaggatgtgggatctgagaa 2028
Sbjct: 1955 caatagcagaacaagtcttttcagcttcagagggcgagcgaaggacgtggggtctgagaa 2014
Na+ channel 569 N S R T S L F S F R G R A K D V G S E N

Query: 2029 cgacttcgcagatgatgagc-cagcacctttgaggataacgagagccgtagagattcctt 2087
Sbjct: 2015 tgattttgcgagcatgagcacagcaccttcgaggacaatgagagcaggagagactctct 2074
Na+ channel 589 D F A D D E H S T F E D N E S R R D S L

Query: 2088 gtttgtgccccgacgacacggagagagacgcaacagcaacctgagtcagaccagtaggtc 2147

Query: 2688 tgggatctttacagcagaaatgtttctgaaaattattgccatggatccttactattattt 2747

Query: 3288 aatgaataatctccaaattgctgtggataggatgcacaaaggagtagcttatgtgaaaag 3347

Sbjct: 3275 aatgaacaaccttcaaattgctgtggacaggatgcacaaaggagtagcttatgtaaaaag 3334
Na+ channel 1009 M N N L Q I A V D R M H K G V A Y V K R

Query: 3348 aaaaatatatgaatttattcaacagtccttcattaggaacaaaagatttttagatgaaat 3407
Sbjct: 3335 aaaaatatatgagtttattcaacagtcctttgttaggaacagaagatccttagatgaaat 3394
Na+ channel 1029 K I Y E F I Q Q S F V R K Q K I L D E I

Query: 3408 taaaccacttgatgatctaacaacaagaaagacagttgtatgtccaatcatacagcaga 3467
Sbjct: 3395 taagccacttgatgatctaacaacagaaaagacaattgtacatctaaccacacgacaga 3454
Na+ channel 1049 K P L D D L N N R K D N C T S N H T T E

Query: 3468 aattgggaaagatcttgactatcttaagatgtaaatggaactacaagtggatataggaac 3527
Sbjct: 3455 gattgggaaagatctggactgtctgaaagatgtgaatggaaccacgagtggtatagggac 3514
Na+ channel 1069 I G K D L D C L K D V N G T T S G I G T

Query: 3528 tggcagcagtggtgaaaaatacattattgatgaaagtgattacatgtcattcataaaca 3587
Sbjct: 3515 cggcagcagtggtgaaaagtacatcattgatgagagtgtactacatgtcattcataaaca 3574
Na+ channel 1089 G S S V E K Y I I D E S D Y M S F I N N

Query: 3588 cccagtccttactgtgactgtaccaattgctgtaggagaatctgactttgaaaatttaa 3647
Sbjct: 3575 cccagcctcaccgtgactgtgccattgctgtgggagagtctgactttgaaaacttaa 3634
Na+ channel 1109 P S L T V T V P I A V G E S D F E N L N

Query: 3648 cacggaagacttttagtagtgaatcggatctggaagaaagcaaagagaaactgaatgaaag 3707
Sbjct: 3635 cacagaggacttttagcagtgaatcagatctagaagaaagcaaagagaaactcaacgaaag 3694
Na+ channel 1129 T E D F S S E S D L E E S K E K L N E S

Query: 3708 cagtagctcatcagaaggtagcactgtggacatcggcgacactgtagaagaacagcccgt 3767
Sbjct: 3695 cagtagttcctcagaaggaagcacagtagacatcggggcgacctgaggagaaacagcctgt 3754
Na+ channel 1149 S S S S E G S T V D I G A P A E E Q P V

Query: 3768 agtggaaacctgaagaaactcttgaaaccagaagcttggttactgaaggctgtgtacaaag 3827
Sbjct: 3755 catggaaccagaagaaacccttgagcccgaagcttgcttactgaaggctgtgtgcagag 3814
Na+ channel 1169 M E P E E T L E P E A C F T E G C V Q R

Query: 3828 attcaagtgttgtaaataatgtggaagaaggcagaggaaaacaatggtggaacctgag 3887
Sbjct: 3815 attcaagtgttgtaaataatcagtggtggaagaaggagaaaacagtggtggaaccttcg 3874
Na+ channel 1189 F K C C Q I S V E E G R G K Q W W N L R

Query: 3888 aaggacgtgtttccgaatagttgaacataactggtttgagaccttcattgttttcatgat 3947

Sbjct: 3875 gagaacgtgcttccgaatagttgagcacaactgggttgagaccttcattgtgttcgatgat 3934
Na+ channel 1209 R T C F R I V E H N W F E T F I V F M I

Query: 3948 tctccttagtagtggtgctctggcatttgaagatatatatattgatcagcgaaagacgat 4007
Sbjct: 3935 tctcctcagtagtggtgccctggcctttgaggatatatacattgatcagcgaaagacaat 3994
Na+ channel 1229 L L S S G A L A F E D I Y I D Q R K T I

Query: 4008 taagacgatggttgaatatgctgacaagggttttcacttacattttcattctggaaatgct 4067
Sbjct: 3995 caagaccatgctggagtatgcagacaagggttttcacttacattttatcctggagatgct 4054
Na+ channel 1249 K T M L E Y A D K V F T Y I F I L E M L

Query: 4068 tctaaaatgggtggcatatggctatcaaaa-tatttcaccaatgcctgggtgttggtgga 4126
Sbjct: 4055 cctcaaatgggtagcctacggctatcaaacgtatttcaccaatgcctgggtgttggtgga 4114
Na+ channel 1269 L K W V A Y G Y Q T Y F T N A W C W L D

Query: 4127 cttcttaattgttgatgtttcattgggtcagtttaacagcaaatgccttgggttactcaga 4186
Sbjct: 4115 cttcttaattgttgatgtttcattgggtcagtttaacagcaaatgccttgggttactctga 4174
Na+ channel 1289 F L I V D V S L V S L T A N A L G Y S E

Query: 4187 acttggagccatcaaattctctcaggacactaagagctctgagacctctaagagccttatc 4246
Sbjct: 4175 acttggggccatcaagtccttaaggacactaagagctctgagacccttaagagccttatc 4234
Na+ channel 1309 L G A I K S L R T L R A L R P L R A L S

Query: 4247 tcgatttgaagggatgaggggtggttgatgaatgcccttttaggagcaattccatccatcat 4306
Sbjct: 4235 acgatttgaagggatgaggggtggttgatgaatgccctgttaggagcaattccatccatcat 4294
Na+ channel 1329 R F E G M R V V V N A L L G A I P S I M

Query: 4307 gaatgtgcttctggtttgtcttatattctggctaattttcagcatcatgggcgtaaat 4366
Sbjct: 4295 gaatgtgcttctggtttgccttatattctggctaattttcagcatcatgggcgtaaat 4354
Na+ channel 1349 N V L L V C L I F W L I F S I M G V N L

Query: 4367 gtttgctggcaaattctaccactgtattaacaccacaactggtgacaggtttgacatcga 4426
Sbjct: 4355 gtttgctggcaaattctaccactgtgttaacaccacaactggtgacacatttgagatcac 4414
Na+ channel 1369 F A G K F Y H C V N T T T G D T F E I T

Query: 4427 agacgtgaataatcatactgattgcctaaaactaatagaaagaaatgagactgctcgatg 4486
Sbjct: 4415 cgaagtcaataatcattctgattgcctaaaactaatagaaagaaatgagactgcccgggtg 4474
Na+ channel 1389 E V N N H S D C L K L I E R N E T A R W

Query: 4487 gaaaaatgtgaaagtaaactttgataatgtaggatttgggtatctctcttttgccttcaagt 4546

Sbjct: 4475 gaaaaatgtgaaagtaaacttttgataatgtaggatttgggtatctttctttgcttcaagt 4534
Na+ channel 1409 K N V K V N F D N V G F G Y L S L L Q V

Query: 4547 tgccacattcaaaggatggatggatataatgtatgcagcagttgattccagaaatgtgga 4606
Sbjct: 4535 tgcgacgtttaagggttggatggatatcatgtatgcagcagttgattccagaaatgtgga 4594
Na+ channel 1429 A T F K G W M D I M Y A A V D S R N V E

Query: 4607 actccagcctaagtatgaagaaagtctgtacatgtatctttactttgttattttcatcat 4666
Sbjct: 4595 actgcagcctaagtatgaggaaagcctgtacatgtacctgtacttcgtcatcttcatcat 4654
Na+ channel 1449 L Q P K Y E E S L Y M Y L Y F V I F I I

Query: 4667 ctttgggtccttcttcaccttgaacctgtttattgggtgtcatcatagataatttcaacca 4726
Sbjct: 4655 cttcggtcgttcttctactctaaatctattcatcggtgtcatcatagacaacttcaacca 4714
Na+ channel 1469 F G S F F T L N L F I G V I I D N F N Q

Query: 4727 gcagaaaaagaagtttggagggtcaagacatctttatgacagaagaacagaagaataacta 4786
Sbjct: 4715 gcagaagaagaagtttggagggtcaagacatctttatgacagaagaacagaagaataacta 4774
Na+ channel 1489 Q K K K F G G Q D I F M T E E Q K K Y Y

Query: 4787 taatgcaatgaaaaaattaggatcgaaaaaacgcctatacctcgaccaggaaa 4846
Sbjct: 4775 taatgcaatgaagaaattaggatcaaaaaagccacaaaagcctatccctcgacctggaaa 4834
Na+ channel 1509 N A M K K L G S K K P Q K P I P R P G N

Query: 4847 caaatttcaaggaatgggtctttgacttcgtaaccagacaagtttttgacataagcatcat 4906
Sbjct: 4835 caaatttcaaggaatgggtctttgactttgtaaccagacaagtgtttgacatcagcatcat 4894
Na+ channel 1529 K F Q G M V F D F V T R Q V F D I S I M

Query: 4907 gattctcatctgtcttaacatgggtcacatgatgggtggaaacagatgaccagagtgaata 4966
Sbjct: 4895 gatcctcatctgtctgaacatgggtgacctgatgggtggaaacggatgaccagagcgatta 4954
Na+ channel 1549 I L I C L N M V T M M V E T D D Q S D Y

Query: 4967 tgtgactaccattttgtcacgcatcaatctgggtgttcattgtgctattttactggagagtg 5026
Sbjct: 4955 tgtgacaagcattttgtcacgtatcaacctgggtgttcattgtgctgttcaccggcgagtg 5014
Na+ channel 1569 V T S I L S R I N L V F I V L F T G E C

Query: 5027 tgtactgaaactcatctctctacgccattattattttaccattggatggaatatttttga 5086
Sbjct: 5015 cgtgctgaagctcatctccctccgccattattattttcaccattggctggaatatttttga 5074
Na+ channel 1589 V L K L I S L R H Y Y F T I G W N I F D

Query: 5087 ttttgtggttgtcattctctccattgtaggtatgtttcttgccgagctgatagaaaagta 5146

Query: 5687 ctatgagggtttgggagaaagtttqatcccgatgcaactcagttcatggaatttgaaaaatt 5746

|||||
Sbjct: 5675 ctacgaggtctgggagaagttcgaccctgacgccactcagttcatggaatttgaaaaatt 5734
Na+ channel 1809 Y E V W E K F D P D A T Q F M E F E K L

Query: 5747 atctcagtttgagctgctgaaccgcctctcaatctgccacaaccaaaactcca 5806
|||||

Sbjct: 5735 atctcagtttgagctgctgaacccctctcaactaccacaaccgaacaaacttca 5794
Na+ channel 1829 S Q F A A A L E P P L N L P Q P N K L Q

Query: 5807 gctcattgccatggatttgcccatggtgagtggtgaccggatccactgtcttgatatctt 5866
|||||

Sbjct: 5795 gctcattgccatggacctgcccatggtgagtggtgaccggatccactgtcttgatatctt 5854
Na+ channel 1849 L I A M D L P M V S G D R I H C L D I L

Query: 5867 atttgctttttacaaagcgggttctaggagagagtggtgagagatggatgctctacgaataca 5926
|||||

Sbjct: 5855 gtttgctttttacaaagcgggttctggcgagagtggtgagagatggacgctcttcgaatcca 5914
Na+ channel 1869 F A F T K R V L G E S G E M D A L R I Q

Query: 5927 gatggaagagcgattcatggcttccaatccttccaaggtctcctatcagccaatcactac 5986
|||||

Sbjct: 5915 gatggaagaaaggttcatggcttccaacccctccaaggtctcctatcagccaatcactac 5974
Na+ channel 1889 M E E R F M A S N P S K V S Y Q P I T T

Query: 5987 tacttttaaaacgaaaacaagaggaagtatctgctgtcattattcagcgtgcttacagacg 6046
|||

Sbjct: 5975 aacgttaaaacgaaagcaagaggaggtgtcagccgttatcattcagcgcgttacaggcg 6034
Na+ channel 1909 T L K R K Q E E V S A V I I Q R A Y R R

Query: 6047 ccaccttttaaaagcgaactgtaaaacaagcttctttacgtacaataaaaaacaaatcaa 6106
|||||

Sbjct: 6035 ccaccttttgaagcgaacagtaaaaacaagcttcattcacatacaataagaacaaactcaa 6094
Na+ channel 1929 H L L K R T V K Q A S F T Y N K N K L K

Query: 6107 aggtggggctaattcttcttataaaagaagacatgataattgacagaataaatgaaaactc 6166
|||

Sbjct: 6095 gggcggggctaattcttcttataaaagaagacatgatcattgacaggataaatgaaaactc 6154
Na+ channel 1949 G G A N L L V K E D M I I D R I N E N S

Query: 6167 tattacagaaaaaactgatctgaccatgtccactgcagcttgccaccttcttatgaccg 6226
|||||

Sbjct: 6155 tattacagagaaaaactgacctgacgatgtccactgcagcttgccgccttcttatgaccg 6214
Na+ channel 1969 I T E K T D L T M S T A A C P P S Y D R

Query: 6227 ggtgacaaagccaattgtggaaaaacatgagcaagaaggcaaagatg 6273
|||||

Sbjct: 6215 ggtgacaaagccaatcggtggagaaacacgagcaggaaggaaaagatg 6261
Na+ channel 1989 V T K P I V E K H E Q E G K D

Score = 842 bits (438), Expect = 0.0
Identities = 737/870 (84%), Gaps = 14/870 (1%)

Strand = Plus / Plus



Query: 7157 gaattgacaaaattactctttataaatttctgctttttcctgcactttgtttagccatc 7216
|||||
Sbjct: 7170 gaattgacaaaagaaccctttataaattcccgccttaaccctgcactttgtttagccatc 7229

Query: 7217 ttcggctctcagcaagggttgacactgta-tatgttaatgaaatgctatttattatgtaaa 7275
|||
Sbjct: 7230 ttcagctctcagcgagggttgacactgtaatgtgttaatgaaatgctatttattgtgtaaa 7289

Query: 7276 tagtcattttaccctgtggtgcacgtttgagcaaacaaataatgacctaagcacagtatt 7335
|||||
Sbjct: 7290 tagtcattttactctgtggtgcacgtttgagcaaacaaataatgacctaagcacagtatt 7349

Query: 7336 tattgcatcaaataatgtaccacaagaaatgtagagtgcagctttacacaggtaataaaa 7395
|||||
Sbjct: 7350 tattgcatcaaatacgtaccacgagaaacgtagagtgcagctgtccgctggtaataatac 7409

Query: 7396 tgtattctgtaccatttatagatagtttggatgctatcaatgcatgtttatattaccatg 7455
|||||
Sbjct: 7410 tgtattctgtacca-ttatagatagtggtgctgtcagtgcatgtcgaatattaccatg 7468

Query: 7456 ctgctgtatctggtttctctcactgctcagaatctcat--ttatgagaaaccatatgtca 7513
|||||
Sbjct: 7469 ctgcggtatctagtttctcccaccactcagaatctcatactcatgagacaccatagggtca 7528

Query: 7514 gtggtaaagtcaaggaaattgttcaacagatctcatttattttaagtcattaagcaatagt 7573
|||||
Sbjct: 7529 gtggctaagtcaaggaaaccggttcagcagatttcatttctttaagtcattaagcaatagt 7588

Query: 7574 ttgcagcactttaacagctttttgggtattttttacattttaagtggaataacatatgggtat 7633
|||||
Sbjct: 7589 ttgcagcattttaacaatgtctgggtgtttttcaattctaagtggtgacgttcaatgt 7648

Query: 7634 atagccagactgtacagacatgtttnnnnnnncac---actgcttaacctattaaatatg 7690
|||||
Sbjct: 7649 atagccagactgtacatacatgttcggaagacaacactactgcttaacctgttaaa-aca 7707

Query: 7691 tgtttagaattttataagcaaatataaat-actgtaaaaagtcactttattttatttttc 7749
|||||
Sbjct: 7708 tgtttagagttttataagcaagtataaataactgtacaaagtcactttcttttgttttc 7767

Query: 7750 agcattatgtacataaatatgaagaggaaattatcttcagggttgatatacacaatcacttt 7809
|||||
Sbjct: 7768 agcatcatgtac----atatgaagaggaaattatcttcagggttgatatacacgatcacttt 7823

Query: 7810 tcttactttctgtccatagtagtctttttcatgaaagaaatttgctaaataagacatgaaaa 7869
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Sbjct: 7824 tcttactttccgtccacagcagttttttcatggaagatatttgctaactaagaaatgaaac 7883

Query: 7870 caagactgggtagttgtagatttctgcttttttaaattacatttgctaatttttagattatt 7929
|| ||| ||||| ||||| ||||| ||||| ||||| ||||| ||||| |||||
Sbjct: 7884 catgacgggtagtgtagatctctgcttttttaatacagggctttaagtttgattatt 7943

Query: 7930 tcacaattttaaggagcaaaaatagggttcacga-ttcatatccaaattatgcttttgcaatt 7988
||| ||||| ||||| ||||| ||||| ||||| ||||| ||||| ||||| |||||
Sbjct: 7944 tcataattttaaggagcaaaagtacactcacacctcacatccaaattatgatttgcaatt 8003

Query: 7989 ggaaaagggtttaaaattttatttatattt 8018
|| ||||| || ||||| ||||| |||||
Sbjct: 8004 gggaaaagggtagaacatttgatttatgttt 8033

Score = 452 bits (235), Expect = e-123
Identities = 477/563 (84%), Gaps = 20/563 (3%)
Strand = Plus / Plus

Query: 6364 aggactccttttaggaggtcaatgccaaactgactgtttttacacaaat-ctccttaaggt 6422
||||| ||||| ||||| ||||| ||||| ||||| ||||| ||||| ||||| |||||
Sbjct: 6342 aggactccttttaggaagtcaatgccaaactgactgtttttacacaaattcactttaaggt 6401

Query: 6423 cagtgcctacaataagacagtgacccc-ttgtcagcaaact--gtgactctgtg-taaag 6478
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Sbjct: 6402 cagtgcct-caataagacagtgacccccttgtcggcaaactctgtgactcttaggtaaag 6460

Query: 6479 gggagatgaccttgacaggaggttactgttctcactaccagctgacactgctgaagataa 6538
||||| ||||| ||||| ||||| ||||| ||||| ||||| ||||| ||||| |||||
Sbjct: 6461 gggagatgaccttgacaggaggttactgttctcactaccagctgacactgctgaagacaa 6520

Query: 6539 gatgcacaatggctagtcagactgtagggaccagtttcaaggggtgcaaacctgtgattt 6598
|| || ||||| ||||| ||||| ||||| ||||| ||||| ||||| ||||| |||||
Sbjct: 6521 gagaca-aatggctatgcagactgtagggaccagcgtaaaggggtgcagagctataattt 6579

Query: 6599 tgggggttgtttaacatgaaacacttttagtgtagtaattgtatccactgtttgcatttcaa 6658
||| ||||| ||||| ||||| ||||| ||||| ||||| ||||| ||||| ||||| |||||
Sbjct: 6580 gggg---gtttaacgtgaaacacttttagtgtagtaactgtattcaccgtttgcatttcaa 6636

Query: 6659 ctgccacatttgtcacatttt-tatggaatctgttagtggttcatctttttgtt-aatc 6716
||||| ||||| ||||| ||||| ||||| ||||| ||||| ||||| ||||| |||||
Sbjct: 6637 ctgccacatttgtcaggttttgtacaaactctgttagtggttcatcttttttttaaactc 6696

Query: 6717 cat---gtgtttatttatatgtgactatttttgtaaacgaagtttctgttgagaaataggc 6773
||| ||||| ||||| ||||| ||||| ||||| ||||| ||||| ||||| ||||| |||||
Sbjct: 6697 catatgttgtttgttacatgtgactatttttgtaaacggggtttctgttgggaaacagac 6756

06/17/2004

Query: 6315 tgggtgacaaattgtttacagcctgtgaag 6344

Sbjct: 6308 tgggtgacaaattgtttacagcctgtgaag 6337

Score = 56.4 bits (29), Expect = 0.001
Identities = 35/38 (92%)
Strand = Plus / Plus

Query: 7035 tcttagcaggtgcaaacttcattcaaagtgttgagtc 7072

Sbjct: 7054 tcttagtaggtgcaaacttcattcaaagtgttgagtc 7091

CPU time: 0.10 user secs. 0.00 sys. secs 0.10 total secs.

Lambda K H
1.33 0.621 1.12

Gapped
Lambda K H
1.33 0.621 1.12

Matrix: blastn matrix:1 -2
Gap Penalties: Existence: 5, Extension: 2
Number of Hits to DB: 90
Number of Sequences: 0
Number of extensions: 90
Number of successful extensions: 35
Number of sequences better than 10.0: 1
Number of HSP's better than 10.0 without gapping: 1
Number of HSP's successfully gapped in prelim test: 0
Number of HSP's that attempted gapping in prelim test: 0
Number of HSP's gapped (non-prelim): 11
length of query: 8378
length of database: 10,761,364,081
effective HSP length: 27
effective length of query: 8351
effective length of database: 10,761,364,054
effective search space: 89868151214954
effective search space used: 89868151214954
T: 0
A: 0
X1: 6 (11.5 bits)
X2: 26 (50.0 bits)
S1: 12 (23.8 bits)
S2: 23 (44.9 bits)